ADITHYA SWAMINATHAN

29 Drexel Hill Drive, Kendall Park, New Jersey, 08824 | (609) 455-4144 | adithya1431@gmail.com | adithya9@illinois.edu |
Github: https://github.com/adiswami14 | LinkedIn: https://www.linkedin.com/in/adiswami14/

EDUCATION

University of Illinois, Urbana-Champaign, Champaign, IL — Class of 2024
Bachelor of Arts and Science in Computer Science & Mathematics
Achievements: LAS James Scholar, LAS Haan Scholarship Recipient

South Brunswick High School, South Brunswick, NJ — Class of 2020
GPA: 4.47/5.00 (WEIGHTED)
Achievements: National AP Scholar, National Commended Student Award, National Honors Society Member, Math Honors Society, French Honors Society, High Honor Roll Member
Relevant Coursework: Differential Equations, Linear Algebra, Modern Physics, Data Structures, Mobile App Development, AP Computer Science, Real Analysis, Complex Analysis, Multivariable Calculus, AP Physics C

EXPERIENCE

Storming Robots, Branchburg, NJ | *June 2018 - July 2019*
- Gave in-person instruction to 10 VEX RobotC students aged 9-11
- Taught two algorithm-based C/C++ courses to a total of 35 kids aged 12-16
- Assembled and administered lesson plans for both courses to students
- Gave regular status updates to superiors

Coding Camp, South Brunswick, NJ | *June 2018 - July 2018*
- Introduced children in neighborhood to rudimentary concepts in C
- Regularly sent reports of each student's progress to parents
- Focused on tracking each student's weaknesses and addressing them in class

LEADERSHIP

BA Coding Club, Brunswick Acres Elementary School, NJ | *November 2018 - March 2019*
- Organized after-school club focused on teaching basic concepts of programming
- Taught Scratch programming language to children at former elementary school
- Made sure to field questions and alleviate concerns for each student

Y. B. Choi Tae Kwon Do School, Franklin Park, NJ | *April 2016 - March 2018*
- Coordinated and led multiple weekly lessons for 10-15 students of age 7-13
- Encouraged a healthy environment of camaraderie by setting an example of open-mindedness
- Filled in regularly for full-time instructors, ensuring the progress of the students was not halted

PROJECTS

InfiniteWellSimulator (C++)
- Uses Quantum Physics theories to provide an in-depth experience akin to "particle in a box" simulation
- Graphs spatial and momentum wavefunctions for quantum particle in question
- Provides user control over all aspects of the simulation from particle specs to the lighting of the simulation, allowing for full creative freedom
- Utilizes Cinder open-source library as source for GUI

ZeroRobotics (C)
- Manipulated angular velocity and acceleration of bot to program hooking function for interlocking two SPHERES satellites by tracking Euler angles and quaternions
- Performed multiple rounds of iterative testing to perfect SPHERE's movement using Djikstra's Algorithm
- Worked in real time aboard the International Space Station

LandmarkHelper (Java - Android Studio)
- Able to recognize landmarks based on the picture fed into the system by implementing Cloud Vision API
- Authenticates user, and stores landmarks in user's very own dataset using Firebase
- Utilizes Geolocation API to give activities to explore near landmark

ACTIVITIES AND AWARDS

4th Place in International Alliance Finals, Programmer for Team Quark Charm, NASA + MIT's ZeroRobotics Competition
Co-Captain, Team 750B, School VEX Robotics Team
6th Place in Regionals, Lead Programmer for Team F.O.B, VEX RoboCup Junior Arduino Soccer Competition

SKILLS

Languages: Java, C/C++, HTML, CSS, JavaScript, Python, SQL, LaTeX
Cloud Services: Firebase, Google Cloud Vision API, Google Geolocation API
Tools: Android Studio, Visual Studio Code, Visual Studio, Eclipse, Atom, IntelliJ, Git
Firmwares: Arduino